We claim:

1. A supported distributed Bragg reflector, comprising:

   a substrate;

   a nucleation layer deposited on said substrate;

   an interlayer deposited on said nucleation layer, said interlayer comprising a material selected from AlN, $Al_xGa_{1-x}N$, and AlBN, where $0<x<1$; and

   multiple pairs of (Al,Ga,B)N/(Al,Ga,B)N layers deposited on said interlayer, thereby forming a supported distributed Bragg reflector.

2. The supported distributed Bragg reflector of claim 1 further comprising an interlayer deposited between two of said multiple pairs of (Al,Ga,B)N/(Al,Ga,B)N layers.

3. The supported distributed Bragg reflector of claim 1 wherein said substrate comprises a material selected from sapphire, silicon, silicon carbide, lithium gallate, lithium aluminate, and lithium nitrate.

4. The supported distributed Bragg reflector wherein said nucleation layer comprises a GaN material.

5. The supported distributed Bragg reflector of claim 4 wherein said nucleation layer has a thickness greater than approximately 0.5 microns.

6. The supported distributed Bragg reflector of claim 1 wherein said interlayer has a thickness greater than approximately 20 Angstroms and less than approximately 1000 Angstroms.

7. The supported distributed Bragg reflector of claim 1 wherein said pairs of (Al,Ga,B)N/(Al,Ga,B)N layers comprise layers each with a (Al,Ga,B)N layer with a thickness of greater than approximately 20 Angstroms and less than approximately 1000 Angstroms and a (Al,Ga,B)N layer of greater than approximately 20 Angstroms and less than approximately 1000 Angstroms.

8. The supported distributed Bragg reflector of claim 1 wherein said interlayer material further comprises a dopant, said dopant selected from less than approximately 1% by weight of calcium, zinc, silicon, magnesium, carbon, bismuth, oxygen, antimony, and indium.

9. The supported distributed Bragg reflector of claim 1 wherein said pairs of (Al,Ga,B)N/(Al,Ga,B)N layers comprise $Al_yGa_{1-y}N$ /GaN layers, where $0<y<1$.
10. The supported distributed Bragg reflector of claim 9 wherein said multiple pairs of $Al_yGa_{1-y}N$ /GaN layers number more than 50 pairs and less than 70 pairs, wherein at least one additional interlayer is interspersed between said multiple pairs of $Al_yGa_{1-y}N$ /GaN layers.
11. The supported distributed Bragg reflector of claim 10 wherein the distributed Bragg reflector has a reflectivity value greater than 0.99.
12. The supported distributed Bragg reflector of claim 1 wherein said interlayer results in an initial compressive growth stress.
13. A supported distributed Bragg reflector, comprising:

a substrate;

a GaN nucleation layer deposited on said substrate, said GaN nucleation layer having a thickness greater than approximately 0.5 microns;

a first interlayer deposited on said nucleation layer, said interlayer comprising a material selected from AlN, $Al_xGa_{1-x}N$, and AlBN, where $0<x<1$; and

at least five pairs of $Al_yGa_{1-y}N$ /GaN layers deposited on said interlayer;

a second interlayer deposited on said $Al_yGa_{1-y}N$ /GaN layers, said interlayer comprising a material selected from AlN, $Al_xGa_{1-x}N$, and AlBN, where $0<x<1$; and

at least five pairs of $Al_yGa_{1-y}N$ /GaN layers deposited on said second interlayer, thereby forming a supported distributed Bragg reflector.

14. A supported semiconductor lattice structure, comprising:

a substrate;

a nucleation layer deposited on said substrate, said nucleation layer promoting continuous growth of subsequent deposited layers;

an interlayer deposited on said nucleation layer, said interlayer comprising a material selected form an (Al,Ga,B)N material, said interlayer having a thickness greater than approximately 20 Angstroms and less than approximately 1000 Angstroms;

a layer of (Al,Ga,B)N material deposited on said interlayer.